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June 1941

Accidents.

Farm boys fight accidents. By Jack Gunning. Wisconsin agriculturist
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How safe is the home? Architectural record. v.89, no.5.
May 1941. p.67-80. Accidents in home killed 32,000 people in
1939--third of all accidental deaths, within 2 per cent of number killed in
motor accidents, and more than twice as many as were killed in industry.
In addition, approximately 3,000,000 persons were injured in home accidents.
It is estimated that these accidents cost \$600,000,000; property loss in
home fires amounted to additional \$100,000,000.

Just relax. Popular mechanics magazine. v.76, no.1. July 1941.
p.92-95, 164. Accident prevention.

Managing health emergencies in the home. Home accidents - first aid.
By Mary A. Covert. Brookings, S. Dak., [1941]. 17p. Mimeo-
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Safety on the farm is mostly home made. By S. H. McCrory.
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Agricultural Engineering.

Agricultural engineering in national defense. By S. P. Lyle.
Agricultural engineering. v.22, no.8. August 1941.
p.277-280.

Can agricultural engineers solve tenant problem? By Roy E. Hayman.
Agricultural engineering. v.22, no.6. July 1941. p.223-225.

Problems in training agricultural engineers. By E. E. Brackett.
Agricultural engineering. v.22, no.7. July 1941.
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Agricultural Products.

Cotton, wood pulp, and the man-land ratio of the deep South. By A. D.
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people on the land?

Agriculture.

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Getting at the facts about agriculture: Program building. Washington,
U. S. Govt. print. off., 1940. 35p. U. S. Department of agri-
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Index to studies of changing techniques and employment in agriculture.
By Sarah L. Yarnall. Washington, D. C., 1941. 63p. Mimeo-
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economics.

Our food is a weapon. By Claude R. Wickard. Country gentleman.
v.111, no.7. July 1941. p.5, 42-43. Discusses war and
defense program in terms of American agriculture.

Prosperity for farmers and workers. By Mordecai Ezekiel. Land
policy review. v.6, no.7. July 1941. p.13-16.
Position of agriculture in our post-war economy will be vitally affected
by our success or failure in solving this problem of industrial reconstruc-
tion. Unless we take effective steps to keep industry at work, factories
will close down, workers will be unemployed, and new and deeper industrial
depression will swamp all activity.

Science will play a vital role. By Charles E. Kellogg. Land policy,
review. v.6, no.7. July 1941. p.17-25. Agricultural
science has great opportunity. It will play vital role in shaping new
agriculture of critical post-war years. With full aid of science, farmers
can make essential adjustments quickly, effectively, and without waste.

Shelf of work for a critical time. By M. S. Eisenhower. Land policy,
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us is not whether there will be extensive public activity in post-defense
period, but whether we in agriculture are willing to work hard enough to
get needs of rural America properly formulated, evaluated, ready for action,
and incorporated in shelf of projects that will come into use at critical
time.

Such steel as dreams are made of. By Howard R. Tolley. Land policy,
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How to figure air conditioning. Part 2. Refrigerating engineering.
v.41, no.6. June 1941. R. E. application data 26. p.1-6.

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Chemical analysis of aluminum. Aluminum company of America.
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Associations.

Proceedings of the sixteenth annual convention of the National Fertilizer Association. Held at White Sulphur Springs, W. Va., June 3, 4, and 5, 1940. Washington, D. C., National fertilizer association, 1940. 95p.

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Milking barns for sanitary production. By Dean G. Carter and Keith Hinchcliff. Farm and ranch. v.60, no.5. May 1941. p.5.

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Did you ever see a cotton house? Consumers' guide. v.7, no.15. May 1, 1941. p.12-14. Scientific wizards now show how cotton, used in house construction, can help to bail out some of America's surplus cotton.

Earthen floor and wall tiles. Washington, U. S. Govt. print. off., 1941. 158p. U. S. Tariff commission. Report no.141. Second series.

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Bull quarters. Breeding chute - yard - house. By J. G. Hays, A. J. Bell and C. H. Jefferson. East Lansing, Mich., 1941. 12p. Michigan state college. Extension division. Extension bulletin no.32. (Second revision)

Chemistry, Technical.

Agricultural engineer's view of farm chemurgy. By L. J. Fletcher. California cultivator. v.88, no.12. June 14, 1941. p.354-355, 367.

Chemistry goes to work to find new things for the American farmer. By Chas. E. Hughes. Indiana farmers guide. v.97, no.13. July 12, 1941. p.7.

"Chemurgy". Be prepared for its possibilities: new uses for farm crops materially increasing farm incomes and giving better balance to agriculture. By Fred A. Wirt. Farm machinery & equipment. No. 1887. March 1941. p.7-8, 19, 22.

Cold Storage.

Development of mold on cold storage eggs and methods of control. By W. L. Mallmann and Catherine Edwards Michael. East Lansing, Mich., 1940. 34p. Michigan state college. Agricultural experiment station. Technical bulletin no.174.

Concrete.

Acid-resistant concrete coatings. By J. R. Spraul. Agricultural engineering. v.22, no.6. June 1941. p.209-210.
Work reported in paper was undertaken to find suitable coatings for use on concrete stave silos to resist disintegrating action of acids generated in ensilage. Almost all materials used in this study were furnished by nationally known manufacturers, and, for most part, are regularly offered for sale. This paper attempts to give comparative picture of value of each of these materials under action of weak acid, abrasion, and water absorption.

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Fundamentals of corrosion. By G. W. Gleeson. Journal of the American water works association. v.33, no.7. July 1941. p.1249-1202. Qualitative nature of corrosion. Variables influencing corrosion rate. Corrosion rate. Electrolysis. Bibliography.

Scale formation in water heaters and methods of prevention. By J. M. Krapp. Lafayette, Ind., 1940. 27p. Indiana. Purdue university. Engineering experiment station. Research series no.74.

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Microscopic structure of the cotton fibre. By Charles W. Hock, Robert C. Ramsay and Milton Harris. Textile research. v.11, no.4. February 1941. p.200-217. During examination of cotton fibers that had received various chemical treatments, number of observations pertaining to structural details of fiber were made. Those phenomena which appeared to be new were investigated in detail. In addition, experiments described by earlier investigators were repeated in order to have better composite picture of structure of fiber. Cell wall of cotton fiber consists of primary and secondary wall. Latter, which comprises bulk of fiber, consists of innumerable spirally oriented cellulose fibrils enclosed by winding which also makes spiral, but in opposite direction from former. Both winding and fibrils reverse their direction at frequent intervals along axis of fiber, their points of reversal being coincident. Secondary wall is enclosed by thin primary wall. Latter is made up of fine criss-crossing strands of cellulose embedded in membrane consisting principally of wax and pectic substance. Lumen also contains wax and pectic materials, plus various amounts of degenerated protoplasm. When cotton fibers are swollen under certain conditions lamellate structure is discernible in secondary wall. Number of these lamellae increases with age of fiber. On treatment of cotton fibers with cuprammonium hydroxide reagent, cellulose dissolves, leaving residues which vary in amount and in structure, depending upon extent of

Cotton. (Cont'd.)

purification of fibers. Residue from raw and from dewaxed fibers consists of fragments of primary wall, and of lesser amount of material from lumen. Behavior of fibers in reagent depends in part on their maturity. Immature fibers containing only small amounts of cellulose swell relatively little in reagent and undissolved wax and pectic materials maintain original tubular shape of primary wall. When older fibers are given same treatment they swell abruptly, thereby causing primary wall to break in many places, giving rise to "balloons." Irregular swelling along fiber axis, which results in formation of balloons, appears to be dependent in part on orientation of fibrils, and in part on constricting influences of winding and of primary wall.

South Brazil new land of cotton. By Omer W. Herrmann. Washington,
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Better ginning with higher gin-saw speeds. By Charles A. Bennett and
Francis L. Gerdes. Washington, D. C., 1941. 3p. Mimeographed.
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engineering and agricultural marketing service. O.P. no.3373.
ACE no.100.

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By John S. Burgess, Jr. and Otis T. Weaver. Washington, U. S. Govt.
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Gin gives up its secrets to stroboscope and camera. By Waldo H. Kliever
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Some benefits from modernizing cotton gins. By Charles A. Bennett and
Francis L. Gerdes. Washington, D. C., 1941. 4p. Mimeographed.
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Paper presented before meeting of the Alabama Cotton Ginners' Association,
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Survey of cotton gin industry announced. Cotton ginners' journal.
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Certain factors influencing the apparent drying ratios of French prunes.
By A. H. Hendrickson and F. J. Veihmeyer. Pacific rural press.
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Results of barn hay drying studies. By John W. Sjogren and P. D. Rodgers.
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Shrinkage of artificially dried seed corn. By R. H. Wileman.
Agricultural engineering. v.22, no.7. July 1941. p.256.

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Care of milk utensils on the farm. By R. J. Posson and Ralph P. Hotis.
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vent surface erosion. Losses of plant nutrients through work of subsurface
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to obtain approximate estimate of preventable erosion losses.

Better harvests through conservation farming. By R. E. Uhland.
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By Tom Dale. Washington, U. S. Govt. print. off., 1941. 27p.
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How farm machinery has benefited southern agriculture. By R. M. Merrill.
Agricultural engineering. v.22, no.7. July 1941. p.247-248
Southern agriculture has benefited by use of larger and more efficient power
units and farm equipment, but not to such an extent as has country as a
whole. There have been many reasons for this lag in adoption of improved
methods and equipment in most sections of South. Probably two most in-
fluential factors have been topography of farm land and type of agriculture.
Notwithstanding large amount of hand labor required for chopping and pick-
ing of cotton, data are available to show reduction in total cost of pro-
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Table A. Cash farm income and domestic sales of farm equipment, 1925-40.
Table B. Sales of farm equipment and cash farm income, 1925-40. Chart 1.
Relation between sales of farm equipment and purchasing power of farm income
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238.
- Fighting fires with carbon-dioxide gas. Automotive industries.
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Investigations at the Waite agricultural research institute.
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Australia. v.44, no.9. April 1941. p.466-467.
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- Useful notes on the growing and harvesting of flax. By John Pernyes.
Estate magazine. v.41, no.3. March 1941. p.133-136.
Rotation. Technical advice. Cultivation and preparation of land. Manuring.
Seed and rate of seeding. Time of sowing. Sowing. Weeding. Harvesting.
Stacking and thatching. Yield.
- What about flax. By Charles W. Gilmore. Southern agriculturist.
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Computation of flood flows by slope-area method. By A. H. Davison.
Civil engineering. v.11, no.7. July 1941. p.426-428.

Determination of flood-control benefits. By Edward W. Digges.
Civil engineering. v.11, no.8. August 1941. p.465-467.
Proposed basis for evaluating tangible and intangible losses from expected floods. Where results justify cost, flood-control structures may be undertaken as partnership arrangement between Federal Government and state, subdivision of a state, or other responsible local agency. This means that expected resulting benefits must be evaluated in terms of dollars and cents prior to construction. In his paper which was presented before Baltimore meeting in April, author gives very comprehensive analysis of this difficult problem, not as final solution but as principle that has been tested with reasonably satisfactory results.

Flood control and water conservation project. By W. L. Powers.
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Moore and Kenneth R. Goodwin. Agricultural engineering. v.22,
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Graphic presentation of land use and hydrologic data. By C. S. Jarvis
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